

## REMARKS

Applicant respectfully requests reconsideration and further examination of the patent application under 37 C.F.R. § 1.111. First of all, Applicant and the undersigned wish to express gratitude to the examiner for her courtesy during the Examiner Interview conducted on March 31, 2004 regarding an office action in a related application.

The Action rejected Claims 30-58 under 35 U.S.C. 112 as failing to comply with the enablement requirement. The Action states that the limitation regarding pulse characteristics defining communication channels is not disclosed in the specification. The applicant respectfully disagrees.

Applicant's claim 30, as amended, recites 'a delta code of a plurality of delta codes' that specifies pulse characteristics relative to at least one non-fixed reference 'to define one of a plurality of communications channels defined by said plurality of delta codes'.

It is respectfully submitted that the basic concept of code families is discussed beginning on p.3, line 26 - p. 4, line 16. Minimizing decoding errors is described beginning p. 4, line 27, p. 5, line 11. Generation of delta codes is discussed in great detail from p. 36, line 25 - p. 51, line 18. Each technique involves various parameters where at least one parameter can be varied to produce a different code. One skilled in the art will understand that varying such parameters allows generation of code families that support a multi-channel system. In fact, on p. 47, line 22 the specification states that "**Thus, parameter  $a$  provides for the possibility of families of delta codes, which can be used together to enable a multi-channel communication system.**" Any of the disclosed techniques could be used to produce only one code but could also be used to produce a plurality of delta codes to enable a multi-channel communication system, as claimed.

One skilled in the art will recognize that user codes are typically designed so that any two of a family of such codes will be orthogonal (or near orthogonal) resulting in low cross correlation and thus low interference between the resulting signals when arriving simultaneously at a receiver. Additional support regarding this subject matter can be found in:

P. 44, line 15  $LCG(a,c,m,x_0)$  varying parameters produces different PN sequence.

P. 44, line 23  $ALFG(l,k,m,x_0)$  varying parameters produces different PN sequence.

P. 40, varying T, varies code.

P. 41, varying lamda varies code.

P. 43, varying T0 varies code.

P. 47 line 14-25 varying a varies code.

The Action rejected Claims 1-29 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended Claim 1 such that 'said at least one pulse characteristic' is now 'said pulse characteristics'. To be consistent with Claim 30, Applicant has further amended claim 1 such that pulse characteristics are specified relative to at least one non-fixed reference 'in accordance with a delta code of a plurality of delta codes' to 'define one of a plurality of communication channels defined by said plurality of delta codes'. Claim 2 was also amended due to better define the invention. Furthermore, 'Time Modulated Ultra Wideband Receiver' was amended to 'Ultra Wideband Receiver' as was intended in the previous amendment.

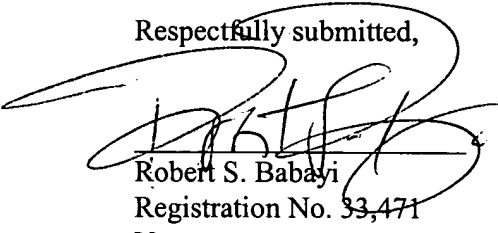
Applicant respectfully submits that all of the stated grounds of rejection and objections have been properly traversed, accommodated or rendered moot. Accordingly, Applicant respectfully submits that the application is in condition for allowance.

If the Examiner believes, for any reasons, that further communication will expedite prosecution of this application the Examiner is invited to telephone the undersigned at the number provided.

Applicant believes there are no additional fees associated with this reply other than those indicated. However, if this is incorrect, the Commissioner is authorized to charge any fees which may be required for this paper to Deposit Account No. 22-0261

Respectfully submitted,

Date: January 28, 2005



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